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DEPARTMENT OF NATURAL RESOURCES

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July 18, 2019

Karin Madsen, Resident Agent
Andalex Resources, Inc.
P.O. Box 910
East Carbon, Utah 84520-0910

Subject: Completion of Midterm Review, Task #5937, Andalex Resources, Inc., Centennial Mine, C/007/0019

Dear Ms. Madsen:

On May 31, 2019, Andalex Resources, Inc. was informed that the Division of Oil, Gas and Mining (the Division) had commenced a midterm permit review for the Centennial Mine.

The midterm review has now been completed and will now be closed; however, the Division has identified deficiencies that must be addressed. The deficiencies have been included with this letter (See Attached). The name of the author for each of the respective deficiencies has been provided.

Your response to these deficiencies will need to be submitted as an amendment to your MRP and will be processed as a separate task. Please submit the required amendment with the accompanying C1 and C2 forms by no later than August 30, 2019.

If you have any questions regarding these requirements or the Midterm Review process, please don't hesitate to call me at 801-538-5350.

Sincerely,

Steve Christensen
Coal Program Manager

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Technical Analysis and Findings

Utah Coal Regulatory Program

PID: C0070019
TaskID: 5937
Mine Name: CENTENNIAL MINE
Title: MIDTERM PERMIT REVIEW

General Contents

Identification of Interest

Analysis:

The application meets the State of Utah R645 requirements for Identification of Interest.

The Chapter 1, Appendix 1, Part 1 Ownership and Control information contained in the MRP was revised and updated in February 13, 2018. The Ownership and Control information listed in the MRP is consistent with the OSM AVS system.

An application to update the Organizational Chart found in Chapter 1, Appendix 1, Part 1 Ownership and Control and to update the Officers and Directors of Andalex Resources Inc., was submitted to the Division on July 5, 2019 and was approved on July 16, 2019 (Task #5971).

ssteab

Violation Information

Analysis:

The application does not meet the State of Utah R645 requirements for violation information, because Appendix 1, Part 3 Violation History does not provide the last three years violation history.

Deficiencies Details:

The application does not meet the R645-301-113.300, violation information requirements. The following deficiency must be addressed prior to final approval.

R645-301-113.300, Please update the violation history in MRP Chapter 1, Appendix 1, Part 3 with current information, including citations written in 2017 and 2018 at the Centennial mine.

pburton

Right of Entry

Analysis:

The application does not meet the State of Utah R645 requirements for Right of Entry, because the permit area acreage and right of entry is not clearly identified in the Mining and Reclamation Plan. MRP page 1-11 (e-pg 72) provides the lease acreage as 6,528.83. This acreage was reduced through lease relinquishment to 2,274.77 acres (Appendix AA, p. 1). Figure 1-2 (dated Jan 2014) also provides a tabulation of 2,274.77 acres.

The leases described on pages 1-11 through 1-16 (electronic Chapter 1 pages 72-76) must be updated with their

current status.

The reference to Appendix J (p. 1-19) must be updated. Appendix AA may be the correct reference. Currently the text on page 1 of Appendix AA refers to "first relinquishment" and "second relinquishment" so its unclear as to what Federal leases were associated with each. For clarity, please provide additional information for these lease relinquishments. The coal lease relinquishment description requires clarification in Appendix AA of the MRP. The legal description beginning on p. 1-17 must describe only those leases for which UEI has right of entry.

The listing of surface ownership must be updated. The Division notes that the address for surface owners CaveCritchilow has changed and gas well ownership has changed.

Deficiencies Details:

The application does not meet the R645-301-121.200, clear and concise requirements. The following deficiencies must be addressed prior to final approval:

R645-301-112.200,

1. The MRP Chapter 1, page 1-11 must state the current lease acreage.
2. The leases described on pages 1-11 through 1-16 (electronic Chapter 1 pages 72-76) must be updated with their current status: active or relinquished.
3. The narrative in Chapter 1 must remove references to Appendix J (p. 1-17) for further detail on right of entry and make the correct reference.
4. The permit area legal description beginning on Chapter 1, p. 1-17 must describe the current permit area.
4. The Permittee must revise Page 1 of Appendix AA to provide a more clear and concise discussion of the Federal lease relinquishments at the Centennial Mine. The revision of Appendix AA must provide clarification on the dates of the Federal Lease Relinquishments (broken out by lease number), the acreages released with those actions and a general description of where those acreages were located. Currently the text on page 1 of Appendix AA refers to "first relinquishment" and "second relinquishment" so its unclear as to what Federal leases were associated with each. For clarity, please provide additional information for these lease relinquishments.

R645-301-112.500, The listing for sub-surface and surface owners must be reviewed and updated in Chapter 1 of the MRP and on Plates 2 and 3 as necessary. The Division has noted that the address for CaveCritchilow has changed and the gas well ownership has changed.

pburton

Operation Plan

Topsoil and Subsoil

Analysis:

The application does not meet the requirements of R645-301-230, Soils Operation Plan, because the disturbed acreage is not clearly stated on p. 2-5, topsoil pile volumes reported on MRP page 2-4 do not match the volumes stated on Plate 3 and because substitute topsoil locations are not adequately identified.

The disturbed area is identified as 34.2 acres and the area reporting to Sediment Pond E is stated as 9.96 acres on page 2-5. The entire disturbed area is stated as 47.19 acres in Appendix AA p. 1-1. Page 2-5 should specify the acreage of the entire disturbed area and break out the mine facilities acreage, the Left Fork acreage and the gas well pad acreage.

Plate 6 shows the locations of five topsoil stockpiles at the mine site and Plate 37 provides volumes of topsoil stockpiled. The volumes on Plate 37 are summarized below in CY.

2,233 CY Topsoil stockpile F (at the Apex mine)

6,728 CY Topsoil stockpile G (forming the outslope of the mine waste storage depression)

762 CY Topsoil stockpile C (just West of stockpile G).

1,323 CY Topsoil stockpile A (just East of the Administrative Offices).

2,728 CY Topsoil stockpile J below the Aberdeen mine.

13,744 CY Total

The MRP page 2-4 states the volume of stockpile C as 6,829 cubic feet or 253 CY. In addition, the MRP states the volume of stockpile G as 167,980 cubic feet. This volume is one of two volumes given for stockpile G on Plate 36, which is certified by the surveyor.

The volume of topsoil reported on Plate 37 (371,944 cu ft) will cover the 34.2 acre mine facilities (1,489,752 sq ft) to a depth of approximately 3 inches. The MRP describes a topsoil deficit to achieve 6 inches of topsoil cover.

To address this deficit of topsoil, the MRP p. 2-3 describes 6,940 CY (187,380 cu ft) of substitute topsoil that was used to construct the shop/warehouse and Apex Truck loadout pads. With this additional volume, the total topsoil & substitute topsoil available is 559,324 cu ft or 20,716 CY. This volume would cover the site with 4.56 inches. However, the 2014 bond estimates a total topsoil and substitute volume of 27,588 CY, which is 6,812 CY more (and which would cover the site with 6 inches). The Permittee must identify the additional source of substitute topsoil that is included in the bond.

The Left Fork Fan topsoil stockpile is described on page 2-5. Prior to its recovery, the volume of the Left Fork topsoil was estimated to be approximately 750 CY. The stockpile location is shown on Plate LF-1 in Appendix W. Please confirm the as-built volume of the Left Hand Fork stockpile.

Deficiencies Details:

The application does not meet the R645-301-230, Soils Operation Plan requirements. The following deficiencies must be addressed prior to final approval:

R645-301-231.400,

1. Please confirm the volume stored in stockpiles stated on page 2-4 and verify their status as topsoil or substitute topsoil and verify that the narrative reflects the volume of soil stored in stockpiles as shown on Plate 37.

2. Page 2-5 should specify the acreage of the entire disturbed area (47.19 acres) and break out the acreage of the mine facilities, the Left Fork and the gas well pad acreage.

3. Chapter 2 must reference Appendix X for further information about the de-gas well pad disturbance. Statements on page 2-5 must identify the location and volume of the Left Hand Fork stockpile..

R645-301-233,

1. In accordance with information provided in MRP p. 2-3, Show topsoil substitute location on the South slope of the shop/warehouse pad and extending to the Apex loadout pad on Plate 6, totaling 6,940 CY.

2. The MRP narrative identifies the location of 20,716 CY topsoil and substitute. 2014 bonding calculations use a figure of 27,588 CY of topsoil and substitute. Identify the location of the additional 6,812 CY of substitute topsoil that is stated in 2014 bonding calculations and confirm its location on a map.

3. Calculate the total volume of substitute topsoil available in the narrative. Provide an estimated topsoil & substitute topsoil cover at final reclamation.

pburton

Hydrologic General

Analysis:

The MRP meets the State of Utah R645 requirements for Hydrology.

The mid-term inspection for permit compliance relating to hydrology was conducted on July 10, 2019 (see Inspection Report #6469). The surface hydrology features at the Centennial Mine are in good working order. All surface diversions and sediment ponds are compliant with the State of Utah R645 requirements for coal mining. No action is required at this time to update the MRP.

kstorrar

Hydrologic Ground Water Monitoring

Analysis:

The MRP meets the State of Utah R645 requirements for Groundwater Monitoring.

The Permittee is required to monitor one well and one spring in the water monitoring program. The well, Well No. 1, is completed in the sandstone aquifer below the Aberdeen mine workings. The well is depth and spring flow are monitored and sampled for water quality quarterly and these data are submitted to the Division.

kstorrar

Hydro Surface Water Monitoring

Analysis:

The MRP meets the State of Utah R645 requirements for Surface Water Monitoring.

The Permittee is required to monitor two surface water sites in the water monitoring program. Both sites are ephemeral and rarely flow. Flow and water quality, when flow is reported, is submitted to the Division quarterly.

kstorrar

Hydrologic Diversion General

Analysis:

The MRP meets the State of Utah R645 requirements for Diversions.

The disturbed and undisturbed diversions were inspected on July 10, 2019 for permit compliance, see Inspection Report #6469. Diversions are properly functioning as designed. All diversions appear to be properly sized to convey runoff and are stable along their lengths.

kstorrar

Hydrologic Siltation Treatment

Analysis:

The MRP meets the State of Utah R645 requirements for Sediment Ponds.

The sediment pond impoundments were inspected on July 10, 2019 for permit compliance, see Inspection Report #6469. The sediment ponds are properly sized by impounding and treating runoff prior to discharging through assigned UPDES outfalls. The UPDES General Permit No. UTG040000 for Coal Mining Operations in Utah was issued for the next five years on April 1, 2019.

kstorrar

Reclamation Plan

Revegetation General Requirements

Analysis:

The MRP meets the State of Utah R645-301-356 requirements for Revegetation General Requirements. Plate 9 depicts the 3 reference areas: R-1, the reference area for the Drainage seed mix, and R-3 and R-4 which are for steep slope seed mixes. R-3 is located on a west-facing slope and R-4 is located on an east-facing slope. The standards for success are written in the Reference Areas section on p. 3-18 of the MRP as 2,000 woody plants per acre for stream-bottom and east-facing slopes and 1,500 woody plants per acre for west-facing slopes.

However, the GPS locations are not provided for the reference areas and only area R-4 was able to conclusively be identified in the field via a physical sign. The Division recommends the Permittee add GPS locations as well as physical signage on the ground to clarify the locations of the reference areas. An updated Plate 9 which includes the GPS information would also be beneficial to all parties.

tmiller

Bonding and Insurance General

Analysis:

The application meets the State of Utah R645 requirements for General Bonding and Insurance.

The Permittee renewed the liability insurance policy last month. Policy number PC304000N with Lloyd's Underwriters at London is valid for another year and will expire on June 1, 2020.

A reclamation bond in the amount of \$1,520,000 is posted with Indemnity National Insurance Co., an A- rated insurance company. Of the posted \$1,520,000 reclamation bond, \$171,734 is earmarked for the demolition, earthwork, and/or reseeding associated with reclamation of the gob gas ventilation holes on the surface above the mine workings. The following vent holes are specifically addressed: 3, 4, 5A, 5B, 6, 7, 7A, 8, 8A, 9, and 11.

jeatchel

Bonding Determination of Amount

Analysis:

The application does not meet the State of Utah R645 requirements for Determination of Bonding Amount.

The reclamation cost estimate which is incorporated into the current Centennial Mining and Reclamation Plan has not been updated to current unit costs. Direct unit costs used to calculate the bond estimate need to account for overhead and profit costs (O&P) and be updated and escalated to 2024 dollars. The 5-year escalation factor to be applied to the reclamation cost is 2.32%.

Deficiencies Details:

The application does not meet the State of Utah R645 requirements for Determination of Bonding Amount. The following deficiency must be addressed prior to final approval:

R645-301-830: Permittee must update the reclamation bond by applying overhead and profit (O&P) to all direct unit costs and escalate to 2024 dollars.

jeatchel